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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,554	06/20/2003	Gupta Abhay	J&R-1062	6081

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LERNER GREENBERG STEMER LLP  
P O BOX 2480  
HOLLYWOOD, FL 33022-2480

EXAMINER

MYERS, PAUL R

ART UNIT PAPER NUMBER

2112

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/600,554	<b>Applicant(s)</b> ABHAY ET AL.	
	<b>Examiner</b> Paul R. Myers	<b>Art Unit</b> 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the Read and Write timing must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. See for example claim 27.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. The examiner notes a new drawing that shows the claimed timing pointing to the support in the specification would be accepted as long as there is no new matter.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Applicants admitted prior art herein after AAPA.

In regards to claim 1: AAPA teaches a configuration, comprising: at least one first device (M11-M13); a cross bar (XB1); at least one second device (S11-S13) connected to said at least one first device (M11-M13) through said cross bar (XB1), said at least one first device (M11-M13) accessing said at least one second device (S11-S13) through said cross bar (XB1) to at least one of read data (lines connecting Mux11 to A11 are bi-directional. When the data is from A11 to Mux11 it is read data and when it is from Mux11 to A11 it is a write data) from said at least one second device (S11-S13) and write data to said at least one second device; a multiplexer (MUX11-MUX13) associated with each of said at least one first device (M11-M13 respectively), said multiplexer (MUX11-MUX13) associated with each of said at least one first device (M11-M13) having input connections connecting to all of said at least one second device (through multiplexing Arbiters A11-A13) and an output connection connecting to the respective one of said at least one first device (M11-M13); an arbiter (A11-A13) associated with each of said at least one second device (S11-S13), said arbiter having input connections connecting to all of said at least one first device (through multiplexers MUX11-MUX13) and an output

Art Unit: 2112

connection connecting to the respective one of said at least one second device (S11-S13); and a multiplexer (A11-A13 the arbiter is a multiplexing arbiter as described thus it is both an arbiter and a multiplexer) associated with each of said at least one second device (S11-S13), said multiplexer (A11-A13) associated with each of said at least one second device (S11-S13) having input connections connecting to all of said at least one first device (through Multiplexers MUX11-MUX13) and an output connection connecting to the respective one of said at least one second device (S11-S13).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-3, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Hiller et al PN 5,081,575.

In regards to claims 2 and 27: AAPA teaches the claimed cross bar structure AAPA however does not teach the bus structure including Address, read data and write data. Hiller teaches a configuration comprising: a first device (PE1); a cross bar (6); a second device (PMEM1) connected to said first device (PE1) through said cross bar (6), said first device (PE1) accessing said second device (PMEM1) through said cross bar (6) to at least one of read data (PMEM1 output data figure 12) from said second device (PMEM1) and write data (PMEM1 input data) to said second device (PMEM1). Hiller teaches a first address bus (Figure 12 PE1

Art Unit: 2112

Address); a second address bus (PMEM1 Address); a first read data bus (PE1 Data in conjunction with Read1); a second read data bus (PMEM1 input data); a first write data bus (PE1 Data in conjunction with Write1); a second write data bus (PMEM1 output data); said first device (PE1) and said crossbar (6) being connected to one another through said first address bus (PE1 address), said read data bus (PE1 Data) and said first write data bus (PE1 Data); and said second device (PMEM1) and said crossbar (6) being connected to one another through said second address bus (PMEM1 address), said second read data bus (PMEM1 input data), and said second write data bus (PMEM1 output data). It would have been obvious to a person of ordinary skill in the art at the time of the invention to include the bus structure of Hiller because this would have allowed for handling reads and writes.

In regards to claim 3: Hiller et al teaches the first device sends a read request when it wishes to make a read access.

6. Claims 4, 6-7, 9-11, 14-17, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Hiller et al PN 5,081,575 as applied to claim 3 above, and further in view of Khandekar et al PN 6,173,354.

In regards to claims 4 and 15: Hiller et al teaches read and write requests, Hiller however does not teach the claimed timing of the requests and the addresses. Khandekar teaches the first device sends an address at the same time as the request signal specifying a device and a point within said device from which data should be read.

In regards to claims 6 and 16: Hiller and Khandekar teach addresses being places on an address bus.

Art Unit: 2112

In regards to claims 7 and 17: Khandekar teaches a grant signal (ACK).

In regards to claims 9 and 19: Khandekar teaches passing at least a portion of the address to the second device. The examiner notes that PEIsteering Vector is clearly a part of the address that would not be passed.

In regards to claim 10: Khandekar teaches the device passing the data stored at the address supplied.

In regards to claim 11: Khandekar teaches the DRDY signal is asserted at the same time that the data is provided.

In regards to claim 14: Khandekar teaches the first device sends a Write request when it wishes to make a Write access.

In regards to claim 20: Khandekar teaches the second device emits a ready signal (TRDY) when it is ready to receive data.

7. Claims 8, 12-13, 18 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Hiller et al PN 5,081,575 and Khandekar et al PN 6,173,354 as applied to claim 7 above, and further in view of Hanawa et al PN 5,375,215.

In regards to claims 8 and 18: Khandekar teaches a grant signal as described above. Khandekar does not expressly teach that the grant signal is included as part of the address bus. Hanawa expressly teaches an Address bus (170) that includes grant lines (220) as part of the address bus. It would have been obvious to a person of ordinary skill in the art at the time of the invention to include the grant signal on the address bus because this would have allowed for an easy method of grouping the signal lines.

Art Unit: 2112

In regards to claims 12-13, 21-22, 25-26: Khandekar teaches a Ready signal (Both Target Ready TRDY and Data Ready DRDY) as described above. Khandekar does not expressly teach that the Ready signal is included as part of the Data bus. Hanawa expressly teaches a bus (170) that includes additional control signals (210-220,240-250) as part of the bus. It would have been obvious to a person of ordinary skill in the art at the time of the invention to include the Ready signal on the Data bus because this would have allowed for an easy method of grouping the signal lines.

In regards to claim 23: Both Khandekar and Hiller teach the first device emits the data to be written.

In regards to claim 24: Khandekar teaches the first device emits the data valid (DRDY) signal at the same time as the first device emits the data.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

PN 5,815,023 teaches a standard structure of a multiplexing arbiter (Prior art figure 1).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after



Art Unit: 2112

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul R. Myers whose telephone number is 571 272 3639. The examiner can normally be reached on Mon-Thur 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRM  
March 20, 2006

  
PAUL R. MYERS  
PRIMARY EXAMINER